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Yusaku Fujii

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EXAMINER

TRAN, TONGOC

ART UNIT

PAPER NUMBER

2134

DATE MAILED: 05/21/2004

6

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

09/583,882

Applicant(s)

FUJII ET AL.

Examiner

Tongoc Tran

Art Unit

2134

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 24 February 2004.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-26 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-26 is/are rejected.
- 7) ☒ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 5.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

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### **DETAILED ACTION**

1. This office action is in response to Applicants' amendment filed on 2/24/2004. Claims 1,2,7, 8, 10 and 12-15 are amended. Claims 16-26 are added. Claims 1-26 are pending.

#### ***Information Disclosure Statement***

2. The information disclosure statement (IDS) submitted on 4/14/2004 has been considered by the Examiner.

#### ***Claim Objections***

3. Claims 16-26 are objected to under 37 CFR 1.75 as being a substantial duplicate of claims 3-6, 9-15. When two claims in an application are duplicates or else are so close in content that they both cover the same thing, despite a slight difference in wording, it is proper after allowing one claim to object to the other as being a substantial duplicate of the allowed claim. See MPEP § 706.03(k).

#### ***Response to Arguments***

4. In response to Applicant's remark to rejection under 35 U.S.C. 102:  
Applicant's arguments with respect to claims 1-4 have been considered but are moot in view of the new ground(s) of rejection.

In response to Applicant's remark referring to independent claims 7, 9 and 11, Applicant contends that Buffam is silent as to providing the arithmetic conversion and the scramble of said physical characteristic information. Examiner respectfully disagrees. Buffam does teach applying a predetermined function to the physical characteristic information (col. 12, lines 14-61) which involves converting the

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components of the physical characteristic information by an arithmetic process. Buffam further taught in col. 4, lines 49-61, that the term scramble and encrypt are interchangeable. Therefore, when Buffam performs the encrypting process on the physical characteristic information as taught in col. 12, line 14-col. 13, line 5, he is scrambling the components of the physical characteristic information. Based on the response above, the Examiner maintains the rejection of claims.

In response to Applicant's remark to rejection under 35 U.S.C. 103:

In response to claims 13 and 14, Applicant contends that Raike does not teach using password to encrypt physically characteristic information and that said password is used as a cryptographic key and there is reason to combine. Examiner respectfully disagrees. A key is nothing but a string of numeric value and Raike clearly teaches that a key can be derived from data such as password (col. 31, lines 10-15). Buffam teaches generating a random number key, Raike teaches key can be derived from password which is unique and changes with individual "...and since typical passwords are limited to no more than 8 to 10..." (col. 31, lines 14-16). It suggests that the length of the key is short. Therefore, it would have been obvious to combine Buffam's teaching of generating a key from random number string with Raike's teaching of deriving a key from a password to achieve the speed of the encryption process.

### ***Claim Rejections - 35 USC § 101***

5. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

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Claims 5-6, 11-12, 18-19, 22 and 23 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter. With respect to claims 5, 6, 11 and 12, each of the claims are directed towards simply storing a program onto a storage media with the intended use of executing the program on a computer. The actual use of the program in conjunction with a computer is not recited in the claim language. One possible suggestion is to remove the "for" in the preamble and add "read and" behind the word "be" in the preamble.

With respect to claims 18, 19, 22 and 23, each of the claims are directed towards simply storing a program onto a storage media with the intended use of executing the program on a computer. The actual use of the program in conjunction with a computer is not recited in the claim language. One possible suggestion is to add "read and" behind the word "be" in the preamble.

***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 7-12 and 20-23 are rejected under 35 U.S.C. 102(e) as being anticipated by Buffam (U.S. Patent No. 6,185,316).

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In respect to claim 7, Buffam discloses a cryptographic method comprising the steps of:

“receiving physical characteristic information representing a characteristic inherent to an individual (see col. 8, lines 5-7);

arithmetically converting each component of said physical characteristic information by using a predetermined function concerning said each component and a plurality of components having a predetermined relationship with said each components having a predetermined relationship with said each component, to scramble said physical characteristic information (see col. 8, lines 1-11 and col. 14, lines 30-44); and

encrypting the scrambled physical characteristic information by using the predetermined cryptographic key” (see col. 8, lines 5-11 and col. 14, lines 30-44).

In respect to claim 8, Buffam discloses a decryption method comprising the steps of:

“receiving a cryptogram which is an encryption of scrambled physical characteristic information (see col. 8, lines 29-33) ;

decrypting said cryptogram by using the predetermined cryptographic key and obtaining said scrambled physical characteristic information (see col. 8, lines 29-39 and col. 14, lines 30-44); and

descrambling said scrambled physical characteristic information by removing each element from each component constructing the result of decryption, in which each element is effected at the time of scrambling, by a plurality of components that has a predetermined relationship with said each component (see col. 8, lines 29-39).

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Claims 9-10 and 20-21 are apparatus claims that are substantially equivalent to method claims 7 and 8, respectively. Therefore claims 9-10 and 20-21 are rejected by a similar rationale.

Claims 11-12 and 22-23 are computer readable medium claims that are substantially equivalent to claims 7 and 8, respectively. Therefore claims 11-12 and 22-23 are rejected by a similar rationale.

***Claim Rejections - 35 USC § 103***

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-6 and 16-19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Buffam (U.S. Patent No. 6,185,316) in view of Reeds III (U.S. Patent No. 5,724,427).

In respect to claim 1, Buffam discloses a cryptographic method comprising the steps of:

“receiving physical characteristic information representing a characteristic inherent to an individual (see col. 7, lines 54-58);  
randomly determined a numeric key (see col. 8, lines 1-4);  
generating a cryptographic key from said numeric key and a predetermined primary key (see col. 8, lines 1-11);

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encrypting said physical characteristic information using said cryptographic key (see col. 8, lines 5-11 and col. 14, lines 30-44); and

Buffam discloses generating a decode to decode the encoding key ((see col. 8, lines 29-38) but does not generating an auxiliary code for decrypting said cryptographic key, from said encrypted physical characteristic information and said numeric key".

In respect to claim 2, Buffam discloses a decryption method comprising:

restoring cryptographic key from said numeric key and a determined primary key; and decrypting said encrypted physical characteristic information by using said cryptographic key and obtaining physical characteristic information" (see col. 8, lines 29-39).

Buffam does not explicitly disclose "receiving encrypted physical characteristic information and an auxiliary code; restoring a numeric key from said received encrypted physical characteristic information and said auxiliary code;

However, Reeds discloses an autokey cipher technique in which the parameters used in the encryption process, e.g. the key (random number key) are automatically changed or updated based on for example, the plain text and /or cipher text (encrypted physical characteristic information) (Reeds, col. 2, lines 53-57). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate Buffam's symmetric system of providing a decoder to decode the encoding key with the teaching of Reed's autokey cipher technique which changes the keying parameter based on the changes of the cipher text because it would make a cipher more difficult to break when there is less frequencies of symbols found in the



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cipher text and therefore by using the secure encrypted physical characteristic information which changes with different person and random number key as parameters in generating the key, it would make a stronger key (see col. 2, lines 4-7).

Claims 3-4 and 16 -17 are apparatus claims that are substantially equivalent to method claims 1 and 2, respectively. Therefore claims 3 and 4 are rejected by a similar rationale.

Claims 5-6 and 18-19 are computer readable medium claims that are substantially equivalent to method claims 1 and 2, respectively. Therefore claims 5 and 6 are rejected by a similar rationale.

7. Claims 13-15 and 24-26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Buffam (U.S. Patent No. 6,185,316) in view of Raike (U.S. Patent No. 5,799,088).

In respect to claims 13 and 24, Buffam discloses a remote identification system comprises "a client-side equipment and server-side equipment (see col. 23, lines 1-7), wherein:

said client-side equipment comprising inputting means for inputting physical characteristic information representing a characteristic inherent to an individual (see col. 11, line 58-col. 12, line 3);

proof information inputting means for inputting information including identifier or identifying an individual and a password (see col. 2, lines 31-45);

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outputting means for outputting authenticating information generated from said cryptogram and said identifier (see col. 8, lines 28-39);

said server-side equipment comprising registering means for registering password and reference data which is obtained by measuring a physical characteristic corresponding to each individual, relating to given identifier corresponding to each person (see col. 11, line 58-col. 12, line 3);

receiving means for receiving authenticating information consisting of said cryptogram and said identifier (see col. 8, lines 28-39);

retrieving means for retrieving a relating password and reference data from said registering means in accordance to received identifier (see col. 8, lines 5-11);

decrypting means for decrypting said received cryptogram by using a random numeric key retrieved by said retrieving means as a cryptographic key and obtaining a physical characteristic information (see col. 8, lines 28-39); and

examining means for examining whether or not said physical characteristic information and retrieving reference data are equivalent (see col. 2, lines 31-45).

Buffam discloses encrypting means for encrypting said physical characteristic information using a random numeric key and a predetermined primary key as a cryptographic key and outputting random numeric key as a cryptographic key and outputting a cryptogram (see col. 8, lines 1-11) but does not disclose using a password as a cryptographic key. However, Raikes discloses using a password to generate a cryptographic key (see col. 31, lines 3-17). It would have been obvious to one of ordinary skill in the art at the time the invention was made to use the teaching of Raikes

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by using a password to generate a cryptographic key to speed up the key generation process.

In respect to claims 14-15 and 25-26, the limitations are similar to claim 13 and therefore are rejected by the similar rationale.

**Conclusion**

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tongoc Tran whose telephone number is (703) 305-7690. The examiner can normally be reached on 8:30-5:00 M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Gregory A. Morse can be reached on (703) 308-4789. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Examiner: Tongoc Tran  
Art Unit: 2134

TT

*Matthew D. Smithers*  
MATTHEW SMITHERS  
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Art Unit 2137